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Redescription of *Ceratothoa carinata* (Bianconi, 1869) and *Ceratothoa oxyrrhynchaena* Koelbel, 1878 (Crustacea: Isopoda: Cymothoidae), buccal-attaching fish parasites new to Australia

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Abstract

Ceratothoa carinata (Bianconi, 1869) and *Ceratothoa oxyrrhynchaena* Koelbel, 1878 are recorded for the first time from Australia and redescribed. *Ceratothoa curvicauda* Nunomura, 2006 is synonymised with *Ceratothoa carinata*. Brief accounts are given on the distribution and hosts of these species.

Key words: Crustacea, Isopoda, Cymothoidae, taxonomy, *Ceratothoa*, *Selar crumenophthalmus*, *Dentex spariformis*, fish parasites, Australia

Introduction

The Cymothoidae is the second largest family of marine isopods in the suborder Cymothoidea, with 280 species in 34 genera known worldwide (Poore & Bruce 2012). Knowledge of Australian Cymothoidae began with Hale (1926, 1940) followed by Avdeev (1975a, 1975b, 1975c, 1978a, 1978b, 1979a, 1979b) and Bruce (1986, 1987a, 1987b, 1987c, 1990, 1991), who reviewed the externally attaching and gill-attaching genera for Australia and provided keys to the genera and species for those groups. By 2002 there were 16 genera and 70 species of Cymothoidae known from Australian waters (Bruce *et al.* 2002). The large genera *Ceratothoa* and *Cymothoa* remained unrevised, with many nominal species of doubtful and unclear identity (Bruce *et al.* 2002).

The World Register of Marine Species (Schotte *et al.* 2012) lists 29 species of *Ceratothoa* worldwide, six of which occur in Australia. Bruce *et al.* (2002) listed the following species from Australian waters: *Ceratothoa guttata* Richardson, 1910; *Ceratothoa trillesi* Avdeev, 1979b; *Ceratothoa retusa* Schioedte and Meinert, 1883; *Ceratothoa usacarangis* Avdeev, 1979b; *Ceratothoa trigonocephala* (Leach, 1818); and *Ceratothoa imbricata* (Fabricius, 1775). The latter two species are considered to be of uncertain status and identity (Bruce *et al.* 2002).

Ceratothoa carinata (Bianconi, 1869) was first recorded from Mozambique, Indian Ocean, while *Ceratothoa oxyrrhynchaena* Koelbel, 1878 was first described from Japan. The new records reported here increase the number of known *Ceratothoa* from Australia to eight and improves knowledge of the distribution and host preference of the genus.

Material and methods

Specimens were obtained from the Museum of Tropical Queensland and Australian Museum. Mouthparts and pleopods were removed using dissecting needles and forceps. Temporary mounts of mouthparts were made using